

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Nystrom, *et al.*

Application No 10/596,859

Filed: 06/27/2006

Attorney Docket No: P19103-US1
Customer No.: 27045

§ Group Art Unit: 2617

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§ Examiner: Jama, Isaak R.

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§ Confirmation No: 1377

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For: Bandwidth Signalling

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APPLICANTS' REPLY BRIEF FILED UNDER 37 C.F.R. §1.193(b)(1)

In response to the Examiner's Answer having a mail date of October 7, 2011, the Applicants submit this reply brief to address the Examiner's arguments.

Rebuttal of Examiner's Answer

The Examiner's Answer consists of a *verbatim* restatement of his reasons for rejection of the claims as presented in the Office Action dated July 21, 2010, followed by a section titled "Response to Argument".¹ In the Response to Argument section, the Examiner first presents what he characterizes as "Technology Background", providing a general description of orthogonal frequency division multiplexing. Although the Applicants' invention can be used in systems employing OFDM, it is not limited to such multiplexing schemes. The purpose of Applicants' invention is to inform a mobile station which *operational bands* of radio spectrum are used by a wireless system, including the

size and location of such bands; the information signals transmitted on a dedicated acquisition channel include that information as part of the information in one or more sub-carriers of the operational bands. As those skilled in the art understand, an operational band includes a series of sub-carriers, as illustrated in Figure 1 of the application; illustrated are operational bands I, II and III, of which band II is shared by network operators A and B (see claim 21). It is information regarding the size and locations of such operational bands that is transmitted on a dedicated acquisition channel according to the principles of the Applicants' invention, which is not taught by Krishnan. **In fact, in responding to Applicants' arguments, the Examiner acknowledges that "Krishnan is silent on the issue regarding the location in the spectrum of the operational bands."** (Examiner's Answer; page 12, lines 1-2).

To overcome the acknowledged deficiency in the teachings of Krishnan, the Examiner looks to the teachings of Li, stating that:

Li teaches a multicarrier communications with group-based subscriber allocation, whereby the base station selects one or more clusters (i.e. a group of sub-channels) for each subscriber and then notifies the subscriber regarding cluster allocation in Figure 1B, steps 104 & 105, see also page 3, paragraph 0043, in addition, Li teaches that the base station transmits to the subscriber pilot symbols that occupies the entire OFDM frequency bandwidth and showing the used (shaded) and unused (unshaded) clusters in different cells in Figures 2A-C, page 5, paragraph 0064. Therefore, it would have been obvious to a person of ordinary skill in the art to include the multi-carrier communications with group-based subscriber allocation of Li in the method and apparatus of Krishnan in order for the base station to inform the mobile station of the available sub-channels.

As noted in Applicants; Appeal Brief, the Examiner *acknowledged* in the office action dated April 14, 2009, that "Li is silent to detecting a presence of an acquisition channel by a mobile station for mobile station search purposes and that the detected acquisition channel relates to size and location of operational bands." (emphasis added) The undersigned has again reviewed the referenced portions of Li and can find no teaching of:

¹ The Board should note that the Examiner's Answer contains several errors as to the basis of the claim rejections: section 2 on page 4 is wholly inapplicable to the present application, as is Section 10 on page 8.

- 1.) transmitting information signals, over [a] detected acquisition channel, relating to size and location of operational bands of the radio spectrum used by the system; or,
- 2.) wherein the information signals comprise information of the bandwidth and location in the spectrum of the operational bands as part of the information in one or more sub carriers of the bands.

In looking to the teachings of Li to overcome the deficiencies in the teachings of Krishnan, the Examiner refers to Figure 1B thereof and the description relating thereto. Figure 1B relates to transmitting **pilot symbols** for use in selecting subcarriers. Figures 2A-C merely illustrate time and frequency grids of OFDM symbols, pilots and clusters in different cells. There is no teaching in Li, however, that an acquisition channel in such system can carry **information signals relating to size and location of the operational bands of the radio spectrum** used by the system, or that the information signals comprise information of the **bandwidth and location in the spectrum of the operational bands as part of the information in one or more sub carriers of the bands**. It appears that the Examiner is merely picking and choosing keywords from Applicants claim that appear in the prior art references, without consideration of the full claim limitations, their function, or the overall invention. Nor has the Examiner established any basis for even combining the teachings of Krishnan and Li. Accordingly, the Examiner has not established a *prima facie* case of obviousness for claim 14.

Whereas independent claims 23-25 recite limitations analogous to those of claim 14, those claims are also not obvious over Krishnan and Li. Furthermore, whereas claims 15-22 are dependent from claim 14, and claim 26 is dependent from claim 25, and include the limitations of their respective base claim, they are also not obvious in view of those references, or further in view of Alvesalo.²

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² The Applicants wish to apprise the Board of an error in their Appeal Brief: the paragraph beginning at line 4 on page 8 misstates the names of the references on which the Examiner's current basis of rejection relies. This paragraph presents the appropriate bases of rejection for independent claims 23-25 and dependent claims 15-22 and 26.

CONCLUSION

As established by the arguments in Appellants' original brief, and further elaborated herein in response to the Examiner's Answer, claims 14-26 are patentable over the prior art of record, and the Applicants request that the rejections thereof be reversed and the application be remanded for further prosecution.

Respectfully submitted,
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Date: December 7, 2011

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